

Strategic Planning for Sustainable Neighbourhoods: A Case Study from Palestine

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Introduction

- **The neighbourhood** is the basic planning entity in modern residential planning theories.
- **Sustainable communities** are those which:
 - meet the diverse needs of existing and future residents, their children and other users,
 - contribute to a high quality of life, and
 - provide opportunity and choice.They achieve this in ways that:
 - make effective use of natural resources,
 - enhance the environment,
 - promote social cohesion and inclusion, and
- strengthen economic prosperity.

(The Egan Review Skills for Sustainable Communities, 2004)



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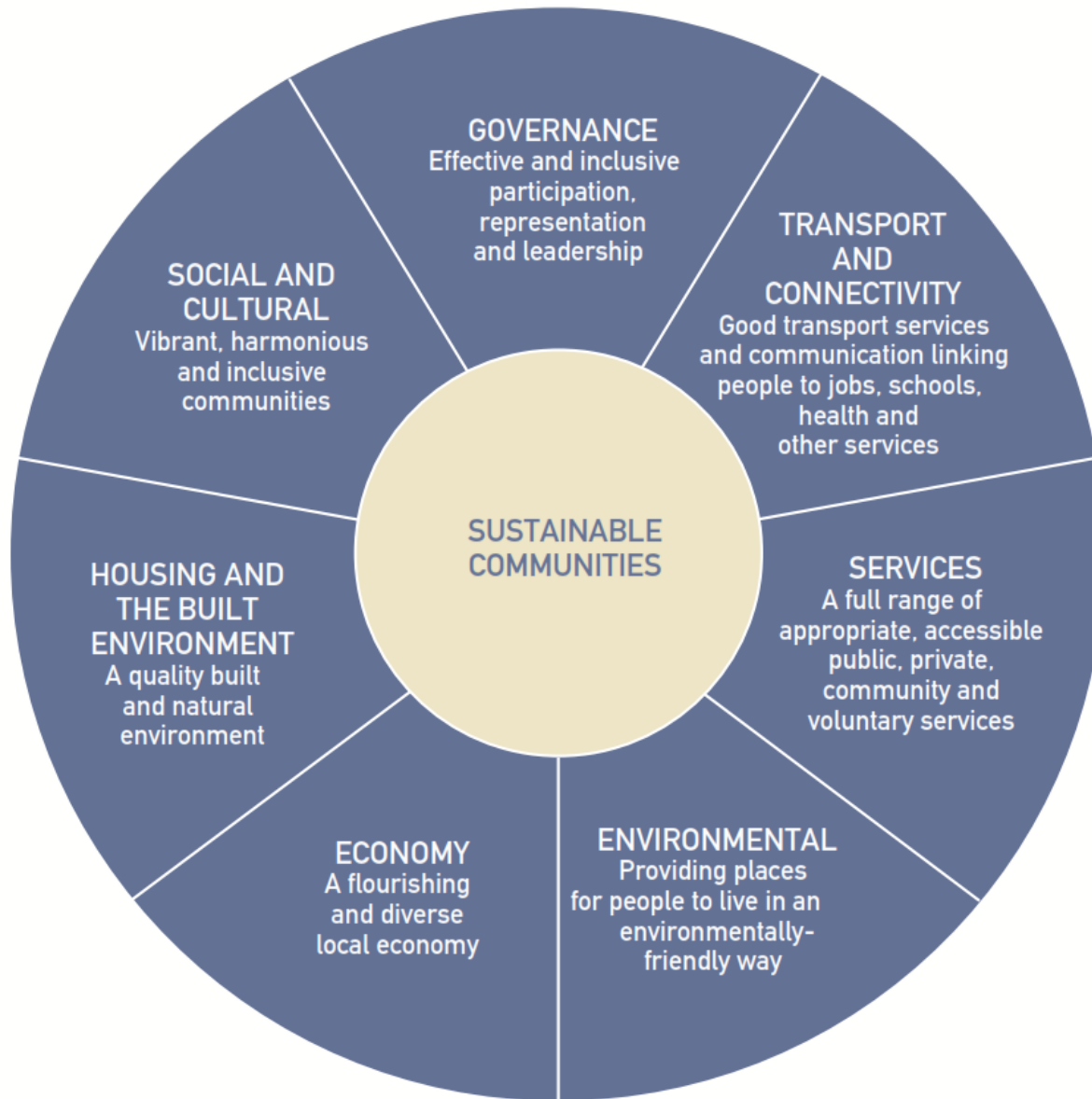
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Components of Sustainable Communities



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Introduction ...

- **UN-Habitat proposed a new strategy of sustainable neighbourhood planning**, published in 2014, suggesting 5 principles to be considered to achieve sustainable neighbourhood:
 - adequate space for streets and an efficient street network,
 - high density,
 - mixed land-use,
 - social mix, and
 - limited land-use specialization.



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Neighbourhoods Development in Palestine

- Since the establishment of the Palestinian National Authority in 1994, after 27 years of Israeli occupation, the residential sector witnessed massive developmental efforts.
- The first Palestinian Developmental Plan for the period 1994-2000 gave priority for infrastructure and housing sectors.
- In Palestine, 60% of households own their housing units.
- Public Housing accounts for less than 1% in Palestine.
- By the end of 2019, estimated deficit of housing units will be about 294,000 units.
- The Palestinian Higher Green Building Council was established in 2010 to promote green and sustainable building.



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WEST BANK ACCESS RESTRICTIONS

JANUARY 2017

PHYSICAL CLOSURES

- West Bank check-point (permanently active)
- Open check-point
- Non-Bank-pedal check-point (occasionally active)
- Road gate - normally closed
- Road gate - normally open
- Non-physical barrier gate - normally closed
- Observation tower
- Checkpoint
- Landfill/drop-off
- Earth wall
- Road barrier
- Bank

West Bank Barrier

- Completed
- Under construction (no construction allowed)
- Barrier gate

CLOSED AND RESTRICTED AREAS

- Local village ban
- Local village ban - temporary
- Local village ban - permanent
- Local village ban - temporary (no construction allowed)
- Local village ban - permanent (no construction allowed)
- Local village ban - permanent (no construction allowed) - no construction allowed

Israeli Settlements

- Settlement area (not limited to military area)
- Settlement within a Palestinian residential area
- Settlement area

PALESTINIAN COMMUNITIES

- Community
- Government capital
- Government boundary
- Build-up area

ROADS

- Prohibited road (Palestinian vehicles are forbidden)
- Main road
- Other road

OSLO INTERIM AGREEMENT (1994-1999)

- Full Palestinian civil and security control
- Full Palestinian civil and security control
- Full Palestinian civil and security control
- Full Palestinian civil and security control

EAST JERUSALEM

OCCUPIED PALESTINIAN TERRITORY (OPT)

POPULATION

4.88 million (2015)

PALESTINIAN REFUGEES

44% of the population are Palestinian refugees (2015)

FOOD INSECURITY

47% of the population are food insecure (2015)

UNEMPLOYMENT

41% of the population are unemployed (2015)

WATER CONSUMPTION

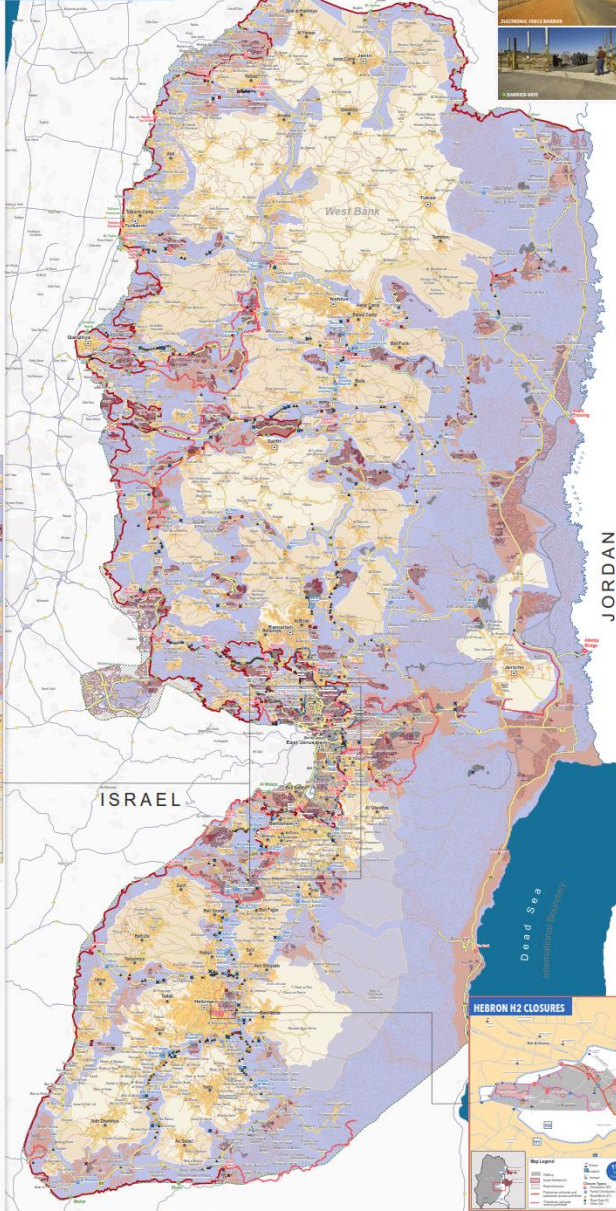
79 litres per person per day (2015)

HOUSEHOLD SIZE

5.2 persons (2015)

ISRAELI SETTLEMENTS

57,000 Israeli settlers (2015)



WEST BANK BARRIER

85% of the barrier is completed

150 km of barrier is under construction

9.4% of the barrier is completed

65 km of barrier is under construction

WEST BANK BARRIER CONSTRUCTION COSTS

100 million USD

100 million USD

CLOSURES

100 million USD

100 million USD

HEBRON H2 CLOSURES

100 million USD

100 million USD

HEBRON H2 CLOSURES

100 million USD

100 million USD

HEBRON H2 CLOSURES

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HEBRON H2 CLOSURES

100 million USD

100 million USD

CLOSURE OBSTACLES BY GOVERNORATE

| Governorate | Physical Closures | Barriers | Checkpoints | Other | Total |
|--------------|-------------------|-----------|-------------|-----------|------------|
| Jerusalem | 10 | 5 | 2 | 1 | 18 |
| West Bank | 15 | 10 | 5 | 3 | 33 |
| East Bank | 20 | 15 | 10 | 5 | 50 |
| Hebron | 10 | 5 | 2 | 1 | 18 |
| Nablus | 15 | 10 | 5 | 3 | 33 |
| Ramallah | 10 | 5 | 2 | 1 | 18 |
| Tulkarm | 15 | 10 | 5 | 3 | 33 |
| Other | 10 | 5 | 2 | 1 | 18 |
| Total | 100 | 75 | 35 | 15 | 215 |

THE PERMIT SYSTEM

572 Total Closures

100 million USD

100 million USD



Neighbourhoods Development in Palestine ...

- Recently, a new trend of neighbourhood-based residential developments starts to spread rapidly.
- In 2006, Rawabi was established as the first new town in Palestine.
- After 2009, tens of new neighbourhoods can be observed, such as Al Reehan.



Rawabi City



Al Reehan Neighbourhood

Research Motivation

- Limitations/challenges on development in Palestine:
 - availability and accessibility of land, and political factors,
 - scarcity of energy, water, and material resources,
 - prevailing conditions of environmental pollution,
 - persisting economic challenges, and
 - new lifestyle trends.
- Need to consider these factors in planning and developing of sustainable neighbourhoods in Palestine.
- Need a national strategic framework to guide the efforts to achieve the goal of having sustainable neighbourhoods.



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Research Objectives

- The **objectives** of this paper include:
 - Analyse and understand the sustainable neighbourhood developmental related issues.
 - Identify sustainable neighbourhood domains and actors in the Palestinian context.
 - Formulate a national strategic planning framework for sustainable neighbourhoods.
 - Propose relevant recommendations to start implementing the proposed framework.



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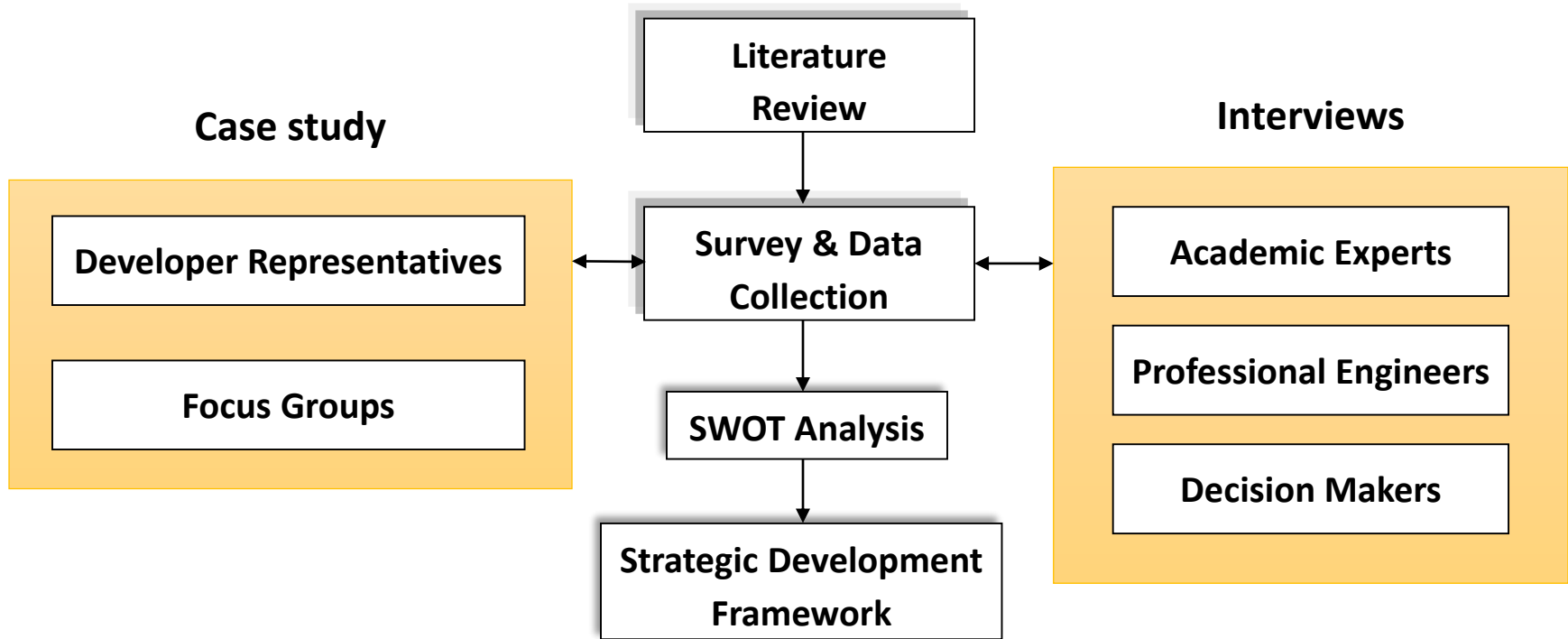
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Methodological Approach



Al Reehan Neighborhood: Case Study Settings



Al Reehan Neighborhood: Case Study Settings ...

- Al Reehan is a new neighbourhoods, located about 7 km from Ramallah City, at the middle of the West Bank.
- The developer has attempted to adopt and implement sustainability concepts and practices.
- Developed over the past 6 years by Amar Group, a firm owned by Palestine Investment Fund, the sovereign development fund.
- Built on 250,000 m², and includes 1800 housing units, ranging from 100-260 m², to accommodate about 8,000 people.
- Key services and amenities, commercial centre, hospital, green areas, etc.



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Al Reehan Neighborhood: Case Study Settings ...

| Sustainability Area | Element | Category | Description |
|------------------------------|--------------------|-------------------|---|
| Environmental Sustainability | Water | Clean water | Potable new network of 8520m length. |
| | | Waste water | Collection system constructed and a waste water treatment plant installed (closed container system based, with capacity of 500m ³ /day, located in the project lowest point, and minimum pumping system required). Treated water is not used till now in the project. |
| | | Storm water | Special network, collection from streets and buildings' roofs. Collected water not used yet |
| | Renewable energy | Heated water | All units have solar system for hot water. |
| | | Generating energy | PV system installed for commercial centre, covering 30% of its needs, with ability to be adjust orientation. |
| | Transport | Roads network | Different streets widths (14m, 16m, 20m). Internal cul-de-sac streets for social and environmental reasons. Paved pedestrians sidewalks, ability to add bike lanes. |
| | | Public transport | Shuttle bus services exist between the neighbourhood and Ramallah city. No bus stations exist yet. |
| | Land/ Materials | Land use | About 40% public space, 30% residential area (multi-storey buildings and villas); 30% green area. |
| | | Materials | Reused the rocks extracted from the site to produce gravel for roads and stones for building the residential units. |

Al Reehan Neighborhood: Case Study Settings ...

| Sustainability Area | Element | Category | Description |
|---------------------------|-------------------|----------------------|--|
| Economical sustainability | Job opportunities | | Available jobs in the commercial centre and the largest private specialized hospital. |
| | Water | | Available system for using storm water and recycled water for irrigating the green areas. |
| | Energy | | Use of PV system, thermal insulation. |
| Social sustainability | People | Social fabric | Different residential unit areas for different family sizes, different social levels, different residential units (100-260m ²) and types (villas and apartments). Strong relationship between residents. |
| | | Public participation | Participation in all decisions related to the neighbourhood, strong loyalty to the neighbourhood. |
| Political sustainability | Land | | Protecting the Palestinian land from confiscation by Israeli occupation. |

Strategic Analysis

- Collection, review and assessment of available information.
- Interviews with the developer's team.
- Interviews with experts and officials.
- Focus group meetings were held:
 - with a group of current residents, and
 - with a group of prospect residents.
- Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis was conducted to identify the positives and negatives within the internal and external neighbourhood environment for each of the sustainability areas/domains.



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Strategic Analysis ...

Example: SWOT Analysis for Energy

Strengths

- Use of solar system for hot water.
- Use of solar panels in the commercial centre.
- Proper location of the waste water treatment plant with no need for pumping.
- The buildings are insulated.
- Using a central system for gas utility.

Weaknesses

- No use for solar energy in streets lighting.
- No utilization of the roofs of the residential and public buildings to install solar panels.
- Limited use of environmental friendly products in buildings that reduces energy consumption.
- No proper awareness to use energy saving electrical devices.

Opportunities

- Electricity Sector Organizing Council incentives to encourage renewable energy initiatives.
- Favourable environmental factors to enable good renewable energy utilization.

Threats

- High initial cost for establishing energy friendly systems.
- Limited internal support and external fund devoted for sustainability-related development.



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Strategic Planning Framework

- Formulating the strategic goals and objectives.
- Defining strategies and actions over the short- and medium-term, including setting policies, regulations, planning guidelines, and design standards that need to be implemented.
- Laying the basis for a time- and budget-based action plan.
- Laying the basis for a monitoring and evaluation plan with relevant Performance Indicators for the base year and the coming 5 years to measure the progress towards achieving the goals and objectives stated in the strategic framework.



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Strategic Planning Framework ...

Example: Strategic Planning Framework for Efficient Energy Use Goal

| Goals | Objectives | Strategies | Actions |
|----------------------|--|--|--|
| Efficient energy use | 1.Reduced dependency on fossil energy 2.Improved efficiency use of energy | 1.Increase the share of generated renewable energy | <ul style="list-style-type: none"> • Solicit government and external support for renewable energy projects, and benefit from the Electricity Sector Organizing Council incentives for the purchase of surplus produced energy • Use of photovoltaic panels in street lighting • Maximize utilization of efficient solar system in producing hot water |
| | | 2.Decrease energy consumption | <ul style="list-style-type: none"> • Conduct public awareness on the efficient and sustainable energy and use of energy saving electrical devices and bulbs • Support using smart energy-saving systems • Encourage the use of new efficient building insulating techniques/materials |



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Conclusions and Recommendations

- This study provides an overall framework that could guide the efforts to realize sustainable neighbourhoods which can be adopted in neighbourhood development in Palestine.
- Main areas/domains are identified for consideration in developing sustainable neighbourhoods.
- Using a case study, with interviews with developer and residents focus groups, as well as interviews with key actors, to identify factors related to internal and external positive and negative impacts.
- This has facilitated the formulation of the proposed strategic planning framework for sustainable neighbourhoods.



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Conclusions and Recommendations

- It is recommended to adopt this framework after proper debate with the relevant key actors.
 - Key ministries, the municipalities, the Housing Council, and the Higher Green Building Council, are urged to exhibit a leading role in supporting sustainable neighbourhoods, through devising relevant policies and regulations.
 - Developers and investors are encouraged to be pioneering in initiatives that will result in sustainable neighbourhoods.
 - Engineers Association and university experts need to conduct awareness campaigns and train engineers, planners, and developers, on sustainable neighbourhoods aspects.



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